

OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Machine Id 2353

Diesel Engine

DIESEL ENGINE OIL SAE 5W30 (--- GAL)

Recommendation

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. No other contaminants were detected in the oil.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION method limit/base current history1 history2 Sample Number Client Info 09 Jun 2024					Jun2024		
Sample Number Client Info HRE0000218							
Client Info O9 Jun 2024 Client Info O9 Jun 2024 Client Info O18662 Client Info S0000 Client Info Sample Status	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age mis Client Info 50000	Sample Number		Client Info		HRE0000218		
Oil Age mls Client Info 50000	Sample Date		Client Info		09 Jun 2024		
Contained Client Info Changed Normal Contained Normal Contained Contained	Machine Age	mls	Client Info		108662		
NORMAL	Oil Age	mls	Client Info		50000		
CONTAMINATION	Oil Changed		Client Info		Changed		
Water	Sample Status				NORMAL		
Water WC Method >0.2 NEG Glycol WC Method Imitibase current history1 history2 WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >100 80 Chromium ppm ASTM D5185m >20 <1 Nickel ppm ASTM D5185m >4 <1 Silver ppm ASTM D5185m >20 31 Silver ppm ASTM D5185m >20 31 Silver ppm ASTM D5185m >40 <1 Silver ppm ASTM D5185m >40 <1 Copper ppm ASTM D5185m >15 2 Vanadium ppm ASTM D5185m >15 2	CONTAMINATION	1	method	limit/base	current	history1	history2
WEAR METALS	Fuel		WC Method	>5	<1.0		
WEAR METALS	Water		WC Method	>0.2	NEG		
ASTM D5185m STM D5185m ST	Glycol		WC Method		NEG		
Chromium	WEAR METALS		method	limit/base	current	history1	history2
Nickel	ron	ppm	ASTM D5185m	>100	80		
Silver	Chromium	ppm	ASTM D5185m	>20	<1		
Silver	Nickel	ppm		>4	<1		
Aluminum	Titanium	ppm	ASTM D5185m		<1		
Lead	Silver	ppm	ASTM D5185m	>3	<1		
Copper ppm ASTM D5185m >330 13 Tin ppm ASTM D5185m >15 2 Vanadium ppm ASTM D5185m 0 Cadmium ppm ASTM D5185m 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 Barium ppm ASTM D5185m 10 0 Barium ppm ASTM D5185m 100 33 Manganese ppm ASTM D5185m 3 Magnesium ppm ASTM D5185m 450 1029 Calcium ppm ASTM D5185m 3000 1278 Zinc ppm ASTM D5185m 1350 1225	Aluminum	ppm	ASTM D5185m	>20	31		
Tin	Lead	ppm	ASTM D5185m		<1		
Vanadium ppm ASTM D5185m 0 Cadmium ppm ASTM D5185m 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 250 23 Barium ppm ASTM D5185m 10 0 Molybdenum ppm ASTM D5185m 100 33 Manganese ppm ASTM D5185m 3 Magnesium ppm ASTM D5185m 450 1029 Calcium ppm ASTM D5185m 3000 1278 Phosphorus ppm ASTM D5185m 1350 1225 Sulfur ppm ASTM D5185m 1350 1225 CONTAMINANTS method limit/base current history1	Copper	ppm		>330	13		
Cadmium ppm ASTM D5185m 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 250 23 Barium ppm ASTM D5185m 10 0 Molybdenum ppm ASTM D5185m 100 33 Manganese ppm ASTM D5185m 100 33 Magnesium ppm ASTM D5185m 450 1029 Calcium ppm ASTM D5185m 3000 1278 Phosphorus ppm ASTM D5185m 1350 1225 Zinc ppm ASTM D5185m 4250 3867 CONTAMINANTS method limit/base current history1 history2 Solium ppm ASTM D5185m >25		ppm	ASTM D5185m	>15			
ADDITIVES	Vanadium	ppm			-		
Boron	Cadmium	ppm	ASTM D5185m		0		
Barium	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 100 33 Manganese ppm ASTM D5185m 3 Magnesium ppm ASTM D5185m 450 1029 Calcium ppm ASTM D5185m 3000 1278 Phosphorus ppm ASTM D5185m 1150 1015 Zinc ppm ASTM D5185m 1350 1225 Sulfur ppm ASTM D5185m 4250 3867 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 15 Sodium ppm ASTM D5185m 7 Potassium ppm ASTM D5185m >20 95 INFRA-RED method limit/base current	Boron	ppm	ASTM D5185m	250	23		
Manganese ppm ASTM D5185m 3 Calcium ppm ASTM D5185m 3000 1278 Phosphorus ppm ASTM D5185m 1150 1015 Zinc ppm ASTM D5185m 1350 1225 Sulfur ppm ASTM D5185m 4250 3867 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 15 Sodium ppm ASTM D5185m 7 Potassium ppm ASTM D5185m >20 95 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.6 Sulfation Abs/.1mm *ASTM D7415 >30 30.6 <td>Barium</td> <td>ppm</td> <td>ASTM D5185m</td> <td>10</td> <th>0</th> <td></td> <td></td>	Barium	ppm	ASTM D5185m	10	0		
Magnesium ppm ASTM D5185m 450 1029 Calcium ppm ASTM D5185m 3000 1278 Phosphorus ppm ASTM D5185m 1150 1015 Zinc ppm ASTM D5185m 1350 1225 Sulfur ppm ASTM D5185m 4250 3867 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 15 Sodium ppm ASTM D5185m >20 95 Potassium ppm ASTM D7844 >3 0.6 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.6 Sulfation Abs/.1mm *ASTM D7415<	Molybdenum	ppm	ASTM D5185m	100	33		
Calcium ppm ASTM D5185m 3000 1278 Phosphorus ppm ASTM D5185m 1150 1015 Zinc ppm ASTM D5185m 1350 1225 Sulfur ppm ASTM D5185m 4250 3867 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 15 Sodium ppm ASTM D5185m 7 Potassium ppm ASTM D5185m >20 95 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.6 Nitration Abs/cm *ASTM D7415 >30 30.6 FLUID DEGRADATION method limit/base	Manganese	ppm	ASTM D5185m		3		
Phosphorus ppm ASTM D5185m 1150 1015 Zinc ppm ASTM D5185m 1350 1225 Sulfur ppm ASTM D5185m 4250 3867 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 15 Sodium ppm ASTM D5185m 7 Potassium ppm ASTM D5185m >20 95 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.6 Sulfation Abs/.mm *ASTM D7415 >30 30.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 <	Magnesium	ppm		450	1029		
Zinc ppm ASTM D5185m 1350 1225 Sulfur ppm ASTM D5185m 4250 3867	Calcium	ppm	ASTM D5185m	3000	1278		
Sulfur ppm ASTM D5185m 4250 3867 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 15 Sodium ppm ASTM D5185m 7 Potassium ppm ASTM D5185m >20 95 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.6 Nitration Abs/cm *ASTM D7624 >20 14.1 Sulfation Abs/.1mm *ASTM D7415 >30 30.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 30.2	Phosphorus	ppm	ASTM D5185m	1150	1015		
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 15 Sodium ppm ASTM D5185m 7 Potassium ppm ASTM D5185m >20 95 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.6 Nitration Abs/cm *ASTM D7624 >20 14.1 Sulfation Abs/.1mm *ASTM D7415 >30 30.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 30.2	Zinc	ppm			1225		
Silicon ppm ASTM D5185m >25 15	Sulfur	ppm	ASTM D5185m	4250	3867		
Sodium ppm ASTM D5185m 7 Potassium ppm ASTM D5185m >20 95 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.6 Nitration Abs/cm *ASTM D7624 >20 14.1 Sulfation Abs/.1mm *ASTM D7415 >30 30.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 30.2	CONTAMINANTS		method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 95 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.6 Nitration Abs/cm *ASTM D7624 >20 14.1 Sulfation Abs/.1mm *ASTM D7415 >30 30.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 30.2	Silicon	ppm	ASTM D5185m	>25	15		
INFRA-RED	Sodium	ppm	ASTM D5185m		7		
Soot % % *ASTM D7844 >3 0.6 Nitration Abs/cm *ASTM D7624 >20 14.1 Sulfation Abs/.1mm *ASTM D7415 >30 30.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 30.2	Potassium	ppm	ASTM D5185m	>20	95		
Nitration Abs/cm *ASTM D7624 >20 14.1 Sulfation Abs/.1mm *ASTM D7615 >30 30.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 30.2	INFRA-RED		method	limit/base	current	history1	history2
Sulfation Abs/.1mm *ASTM D7415 >30 30.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 30.2	Soot %	%	*ASTM D7844	>3	0.6		
FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 30.2	Nitration	Abs/cm	*ASTM D7624	>20	14.1		
Oxidation	Sulfation	Abs/.1mm	*ASTM D7415	>30	30.6		
	FLUID DEGRADA	TION	method	limit/base	current	history1	history2
Base Number (BN) mg KOH/g ASTM D2896 8.5 4.6	Oxidation	Abs/.1mm	*ASTM D7414	>25	30.2		
	Base Number (BN)	mg KOH/g	ASTM D2896	8.5	4.6		



OIL ANALYSIS REPORT







Certificate 12367

Laboratory Sample No.

Lab Number : 06217557 Unique Number : 11090421 Test Package : FLEET

: HRE0000218

Received : 21 Jun 2024 **Tested** : 25 Jun 2024

Diagnosed : 25 Jun 2024 - Don Baldridge

EDEN, NC US 27289 Contact: MAINTENANCE maintenancemanager@mabetrucking.com

Contact/Location: MAINTENANCE ? - MABEDE

To discuss this sample report, contact Customer Service at 1-800-237-1369. * - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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